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| Use the Van de Walle text and the TN Math Standards to complete this assignment. If other resources are used in addition, please cite with the URL or bibliographic information. |

*Chapter 9*

**ADDITION & SUBTRACTION**

1. Why is teaching students about the structure of word problems important?
2. Look carefully at the chart on p. 169 of your text and compare to Table 1 in the TN Math Standards (p.20). Create 5 new example situations and label as Result Unknown, Change Unknown, or Start Unknown.

|  |  |
| --- | --- |
| Add to |  |
| Take from |  |
| Put together/Take apart |  |
| Compare (more) |  |
| Compare (less) |  |

1. Define **join/add problems:**
2. Define **part-part-whole problems:**
3. Define **compare problems:**

1. What word (how it is read) is used for this symbol “” as in ? What does it matter?
2. Watch the embedded video from the digital text on page 174.
   1. What are some student misconceptions about the equal sign highlighted in the video?
   2. What is another way to say “equal” that teachers should emphasize with students?

**Model-Based Problems**

1. Addition

|  |  |  |
| --- | --- | --- |
|  | When to Use | Things to Keep in Mind |
| Counters |  |  |
| Bar Diagram |  |  |
| Number Line |  |  |

9. Why teach addition and subtraction together?

10. Properties:

|  |  |  |
| --- | --- | --- |
| **Property** | **Definition** | **Example** |
| Commutative Property for Addition |  |  |
| Associative Property for Addition |  |  |
| Zero Property |  |  |

**MULTIPLICATION & DIVISION**

1. *Types of Problems* – Use pages 179-181 to complete the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Example Problem | Multiplication or Division | Problem Structure | How do you Know? |
| Kerri has 4 bags of jellybeans. There are 6 jellybeans in each bag. How many jellybeans does Whitney have altogether? |  |  |  |
| Jill has 24 Hershey Kisses. She wants to share them equally among her friends: Gates, Kelly, and Amber. How many Kisses will each person receive? |  |  |  |
| Amanda ate 20 Red Hots. She ate 4 times as many Red Hots as Chrissy. How many Red Hots did Chrissy eat? |  |  |  |
| Dr. Suters walked 7 miles. Dr. Martin walked 4 times as many miles as Dr. Suters. How many miles did Dr. Martin walk? |  |  |  |

1. What is another name for fair-sharing division problems? Describe the known and unknown parts of this type of problem.
2. What is another name for repeated-subtraction division problems? Describe the known and unknown parts of this type of problem.
3. Should multiplication and division be taught together or separately? Explain.
4. What are “naked numbers” problems? Give an example.
5. Explain a preferred way to phrase “4 goes into 24” for division terminology.
6. Name and explain the 5 possibilities for remainders in division problems.

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| --- | --- |
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|  |  |

**Model-Based Problems**

1. Multiplication and Division:

|  |  |  |
| --- | --- | --- |
|  | When to Use | Things to Keep in Mind and/or Example |
| Counters |  |  |
| Bar Diagram |  |  |
| Number Line |  |  |
| Array |  |  |

1. Properties:

|  |  |  |
| --- | --- | --- |
| **Property** | **Definition** | **Example** |
| Commutative Property of Multiplication |  |  |
| Associative Property of Multiplication |  |  |
| Zero Property of Multiplication |  |  |
| Identity Property of Multiplication |  |  |
| Distributive Property of Multiplication over Addition |  |  |
| Zero Property of Division |  |  |